

Performance Leadership



*Using Coaching Skills to
Drive Improved Performance at NASA*

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1. Theory - *A brain-based approach to coaching*

2. Application - *Where and how to use this*

A definition of coaching



Facilitating positive change

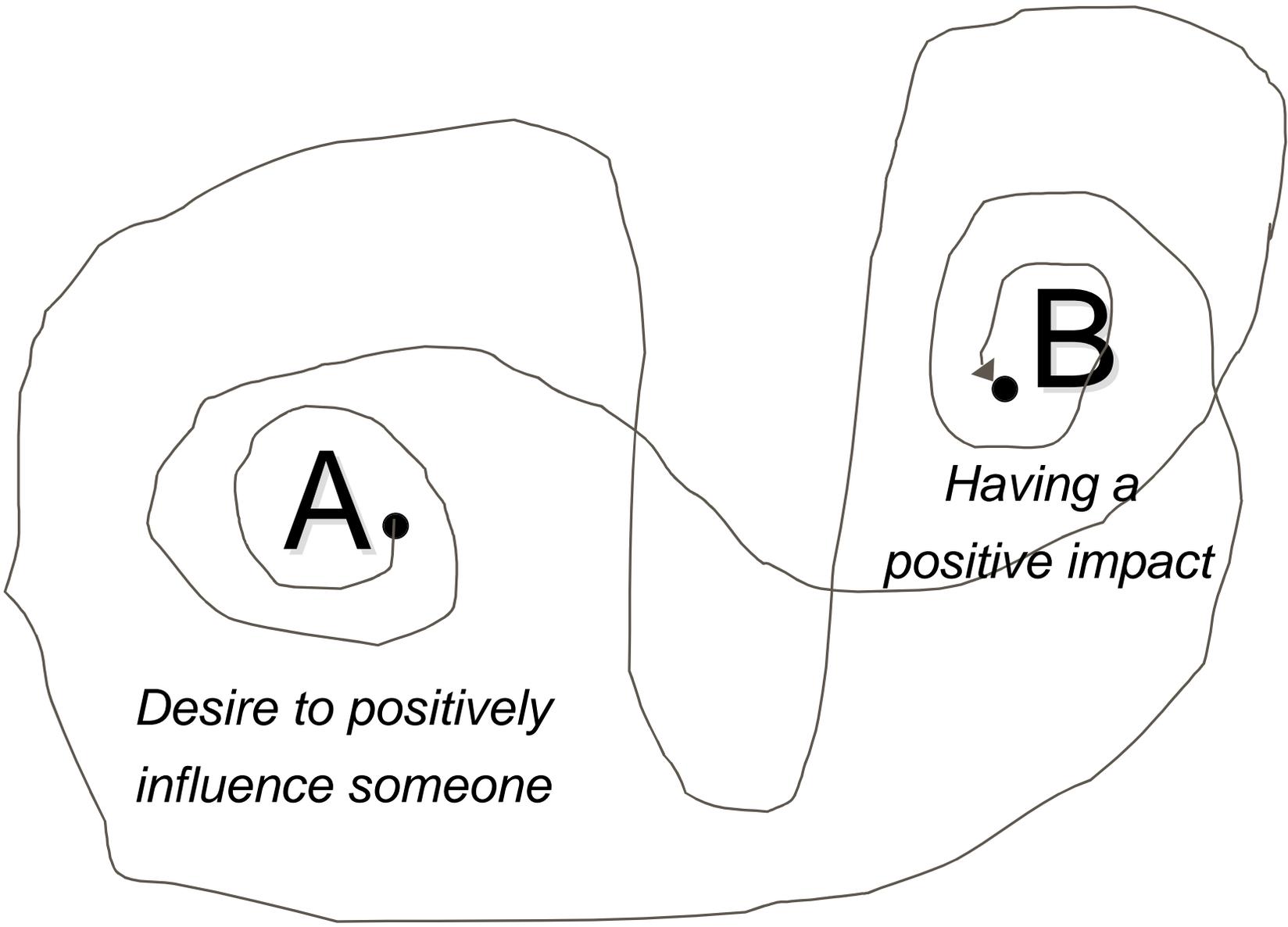
Help people think better, don't tell them what to do

Trying to coach someone to:

- *Focus more on results*
- *Focus more on people*
- *Be more motivated*

Help people think better, don't tell them what to do

***How effective at
coaching are we?***



A.

Desire to positively influence someone

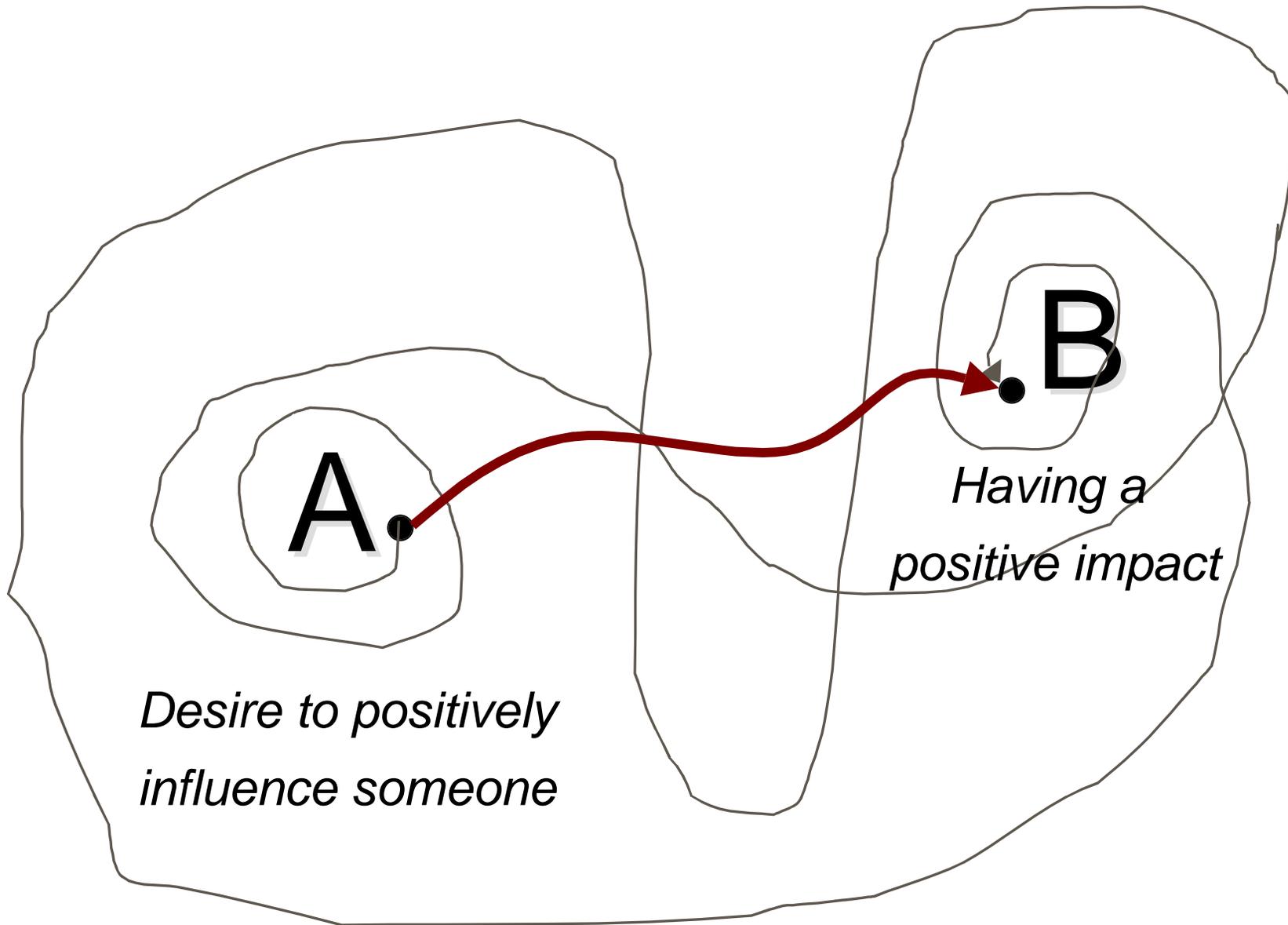
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Having a positive impact

The hard truth



- 1. Most attempts don't make it**
- 2. Those that do, take a long time**
- 3. The useful part is brief**



Why change is hard



- **Our models are wrong**
 - **Social awareness**
 - **Error detection**
 - **Homeostasis**

Help people think better, don't tell them what to do

Neuroscience says...



We think in maps

Help people think better, don't tell them what to do

Neuroscience says...



**The brain is a
connection machine**

Help people think better, don't tell them what to do

We love new connections



***The principal activities of brains are
making changes in themselves.***

Marvin L. Minsky (1986)

“Have you heard the one about the...”

Disconnections irritate



Everything goes along well until
various maps are in conflict.

A mental impasse has been reached,
which we revisit until resolution.

Neuroscience says...



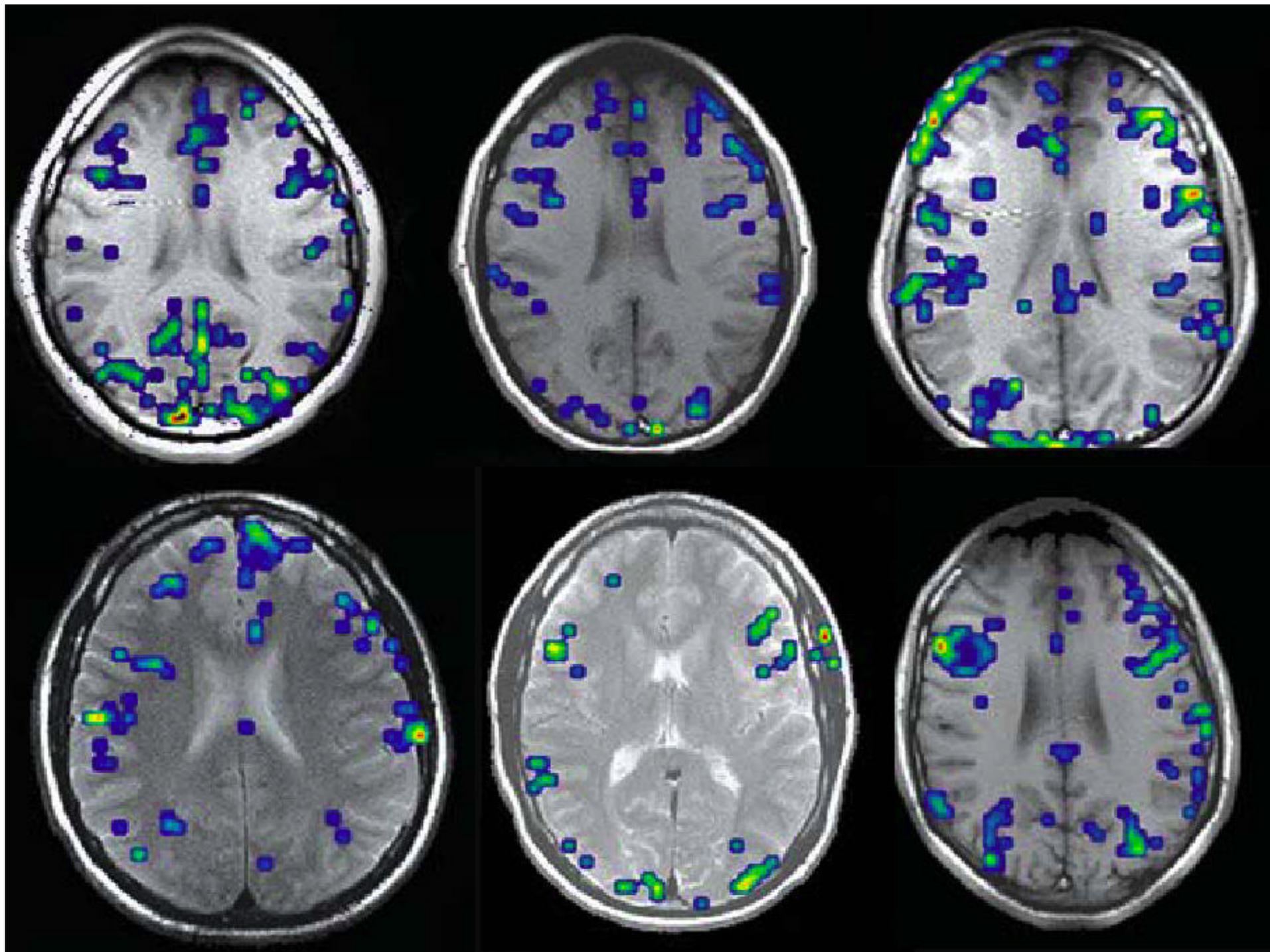
**Up close, our brains are
dramatically different**

Help people think better, don't tell them what to do



GENES

ENVIRONMENT





Neuroscience says...



**The brain hardwires
everything it can**

Help people think better, don't tell them what to do

Used for:

- Understanding
 - Decisions
- Remembering

Working memory

Challenges:

- Limited capacity
- Easily distracted
- Easily confused

Versus

Hardwiring

Massive capacity, minimal effort needed

In other words...



*We're unconscious about
most of what we do*

Help people think better, don't tell them what to do

Neuroscience says...



**Automatic perception is
driven by our hardwiring**

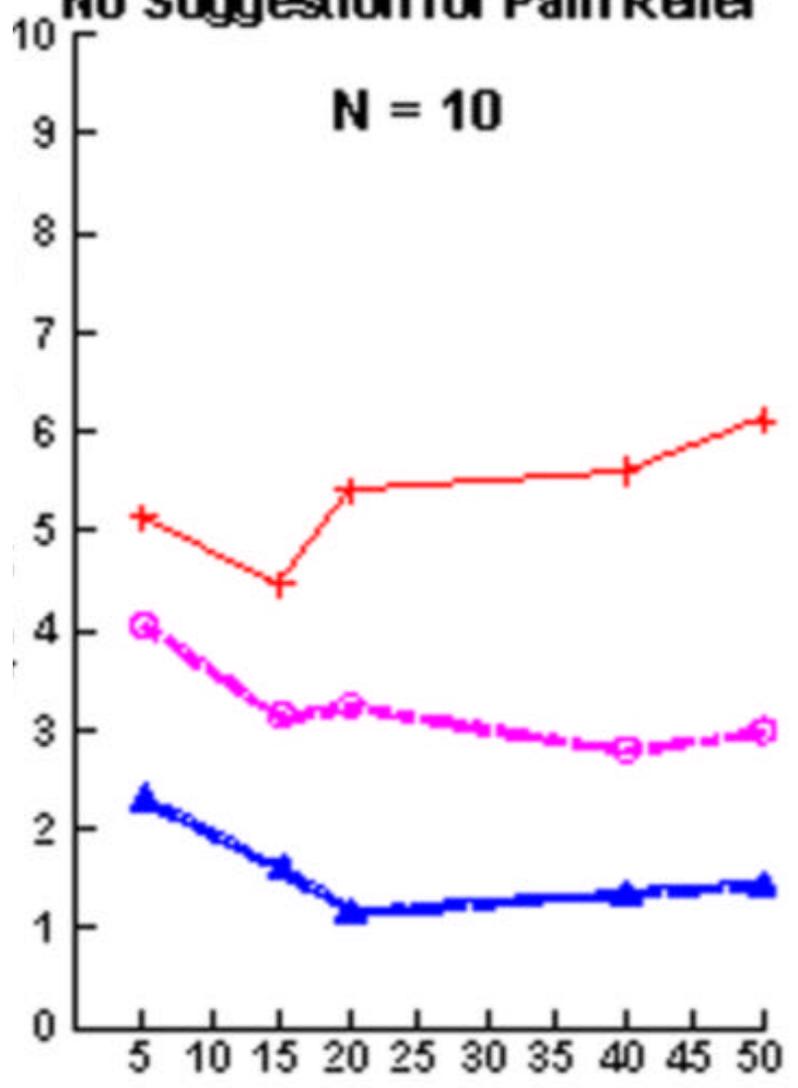
Help people think better, don't tell them what to do

*“Neurons involved in sensing
become active in advance of
receiving sensory input.”*

Jeff Hawkins, ‘On Intelligence’ (2004)

Clinical Trial Design
No Suggestion for Pain Relief

N = 10



Time

—+— **Natural History** —o— **Rectal Placebo** —▲— **Rectal Lidocaine**

In other words...



*What we expect is
what we experience*

Help people think better, don't tell them what to do

Neuroscience says...



**Deconstructing hardwiring
is nearly impossible**

Help people think better, don't tell them what to do

**It's an attention economy
in the brain.**

**FOCUS creates and
reinforces connections.**

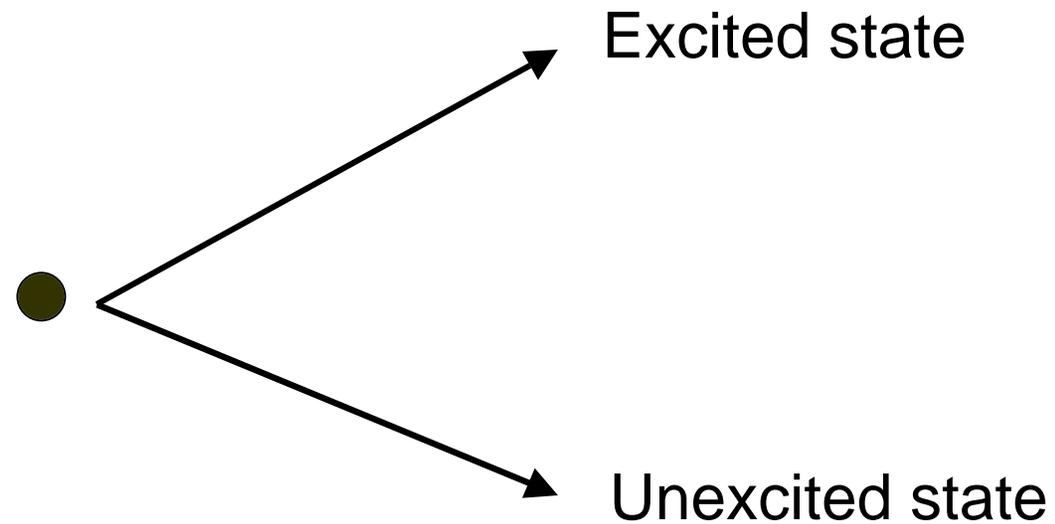
The brain is a quantum world



‘The question you ask has an
impact on what is observed’

Quantum Zeno Effect (QZE)

Attention density



Quantum Zeno Effect (QZE)



The mental act of focusing attention

holds in place brain circuits

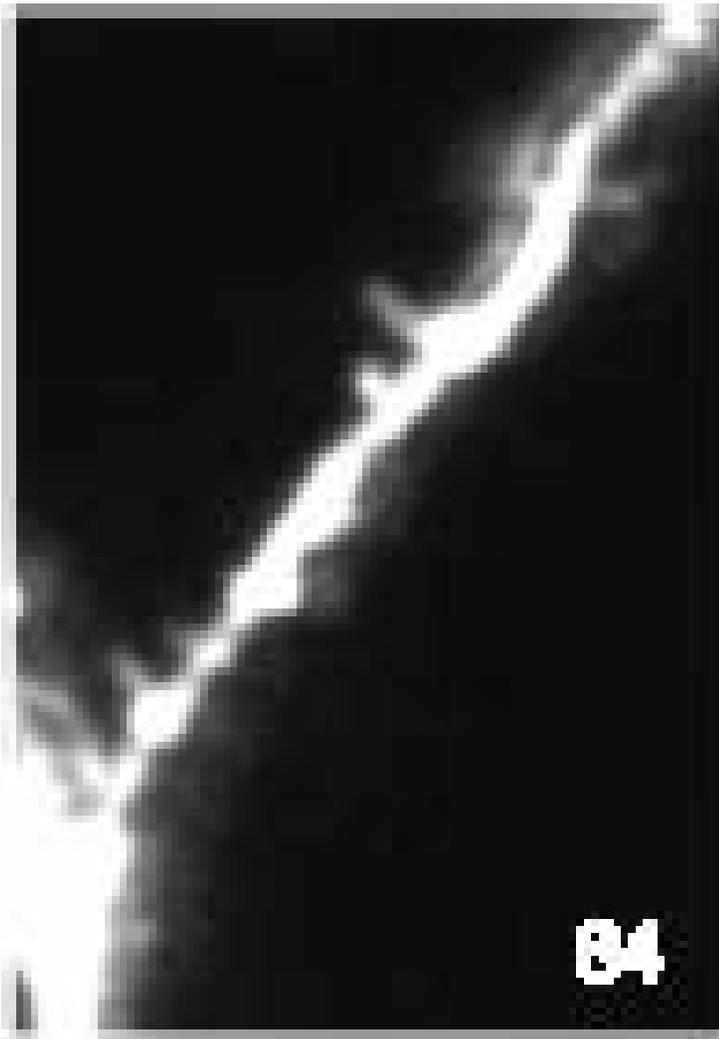
associated with what is focused on.

Neuroscience says...



**New wiring is easy to
create and turn into hardwiring**

Help people think better, don't tell them what to do



Sum

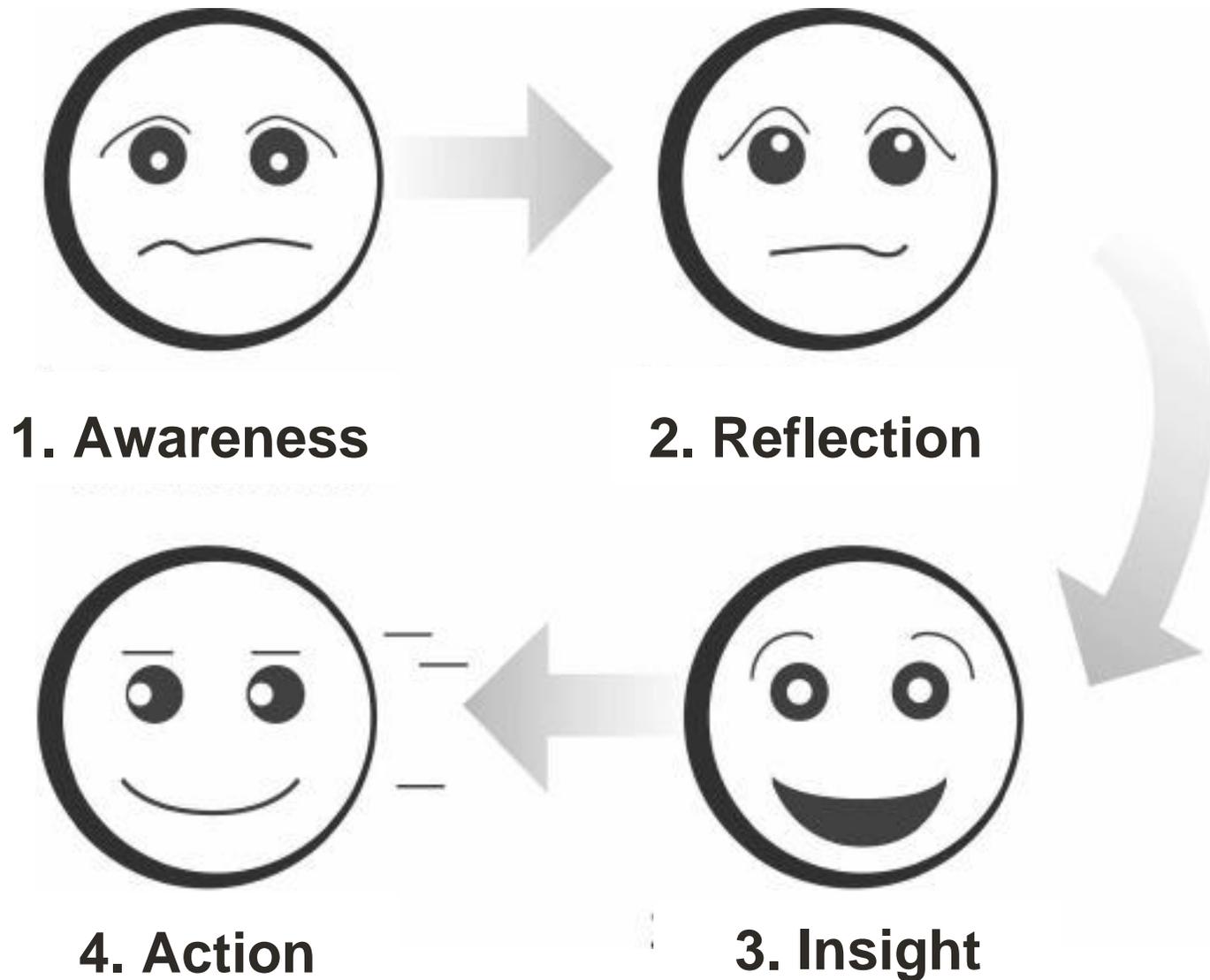
Our default approach

- *Think for others*
- *Focus on problems*

Coaching

- *Help others think*
- *Focus on solutions*

The four faces of insight



The four faces of insight

1. Awareness of a dilemma



We focus on conflicting maps that
have not been able to be reconciled.

The four faces of insight

2. Reflection



By EEG: Alpha band waves arise, signifying external stimuli being shut out of the senses to focus on internal processes.

The four faces of insight

3. Insight



By EEG: Sudden burst of gamma band activity, associated with complex cognitive processing.

Represents a change in internal circuitry.

The four faces of insight

3. Insight



- Adrenaline-like substances are released
- Dopamine-like substances are released

The four faces of insight

4. Action



- Insight brings short term urgency for action
- Action increases attention density
- Attention density deepens new connections

Attention

A thick, horizontal yellow brushstroke with a textured, painterly appearance, extending across the width of the slide below the title.

New maps are delicate creatures
that require careful nurturing to
become a part of our selves.

Positive feedback



“The brain needs to see a happy face and to hear occasional laughter to cement it’s neural circuitry.

Encouraging sounds help mark a synapse for preservation rather than pruning.”

Thomas B Czerner, ‘What makes you tick’, (2001)

Neuroscience says...



- 1. Let others drive the thinking*
- 2. Gently nudge toward solutions*
- 3. Watch for the energy of insight*
- 4. Give new maps lots of attention*

Help people think better, don't tell them what to do

Let's do an exercise...



I'd like to, but.....

Example thinking questions



How long have you been thinking about this?

How often do you think about this?

How important is this issue to you?

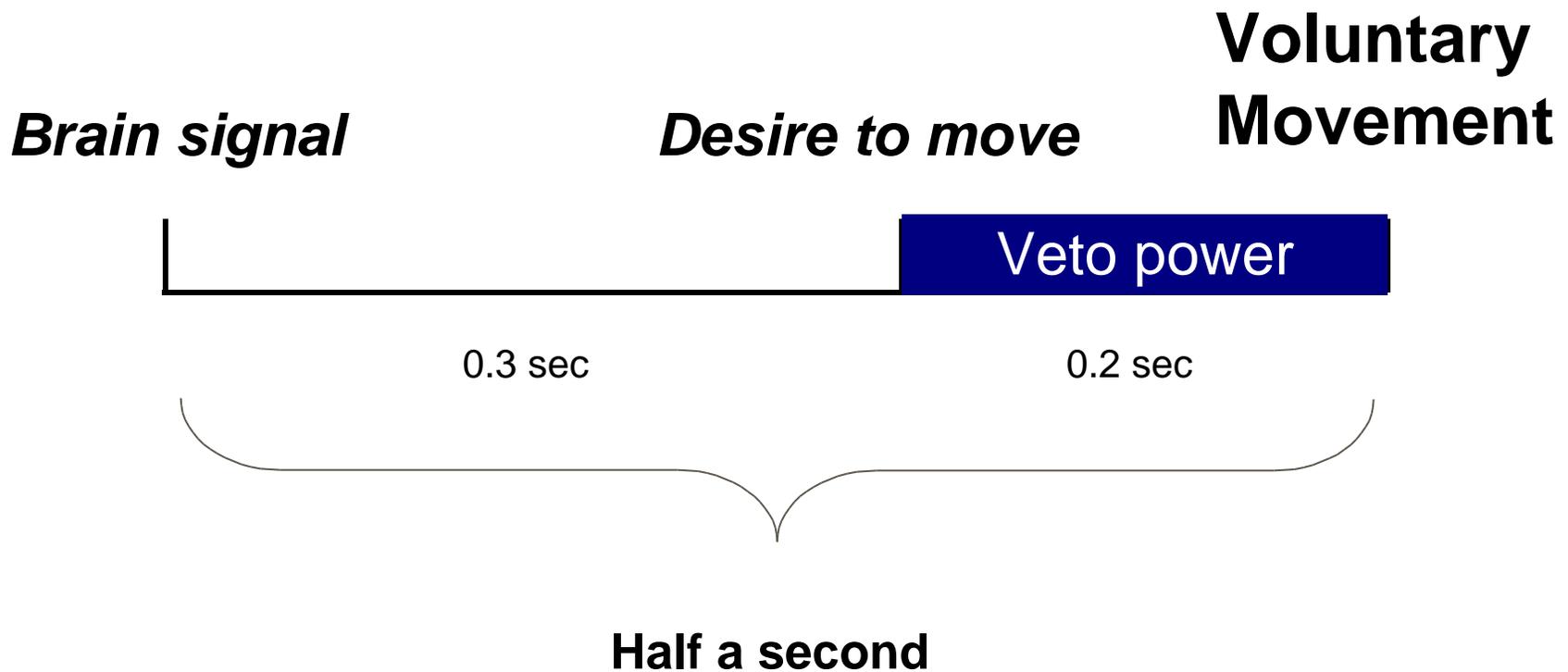
Which part of this do you most need to think about?

What's the central issue here?

How clear are you about what you need to do?

How could I best help you here?

Free Will vs Free Wont



Libet (1983)

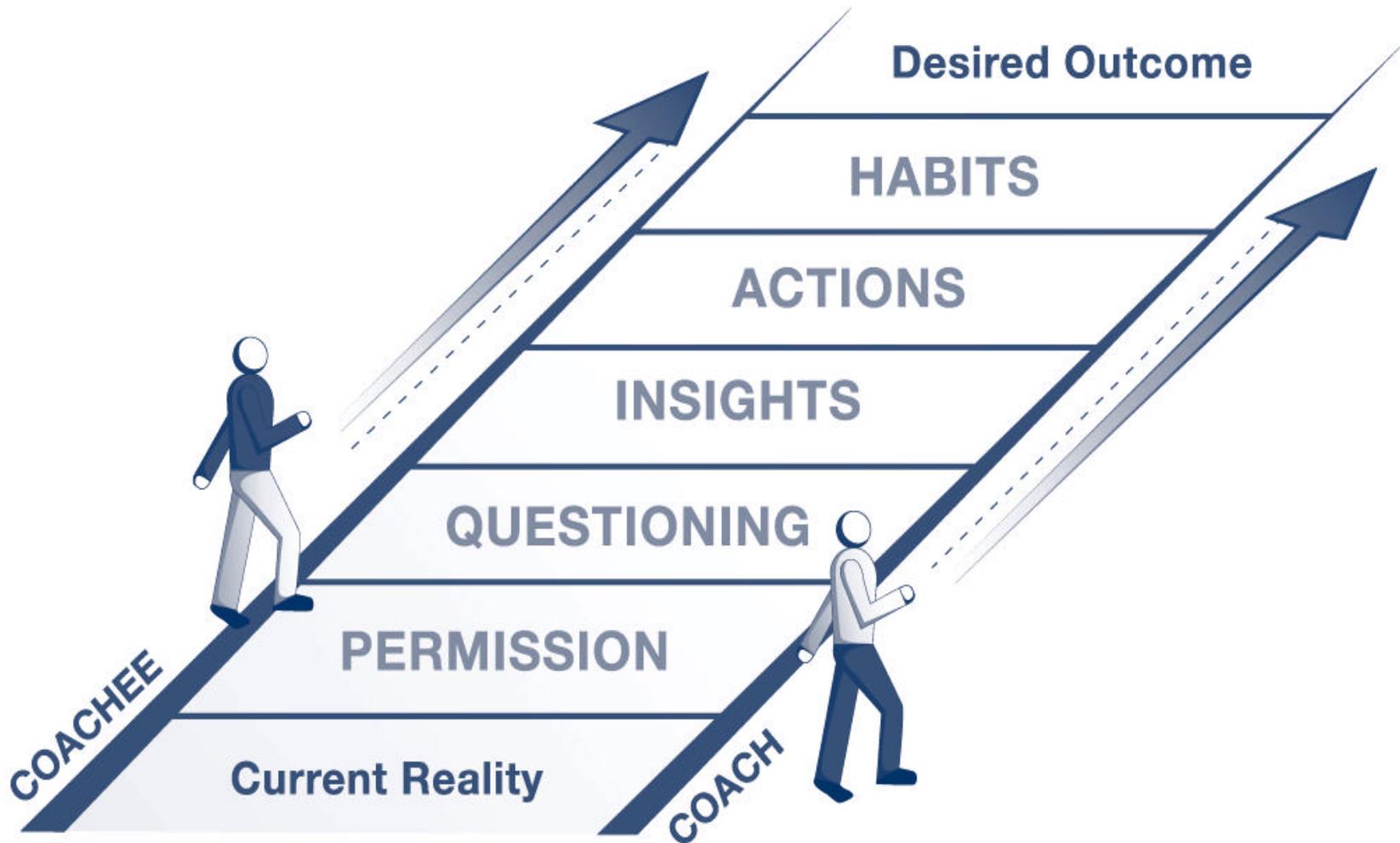
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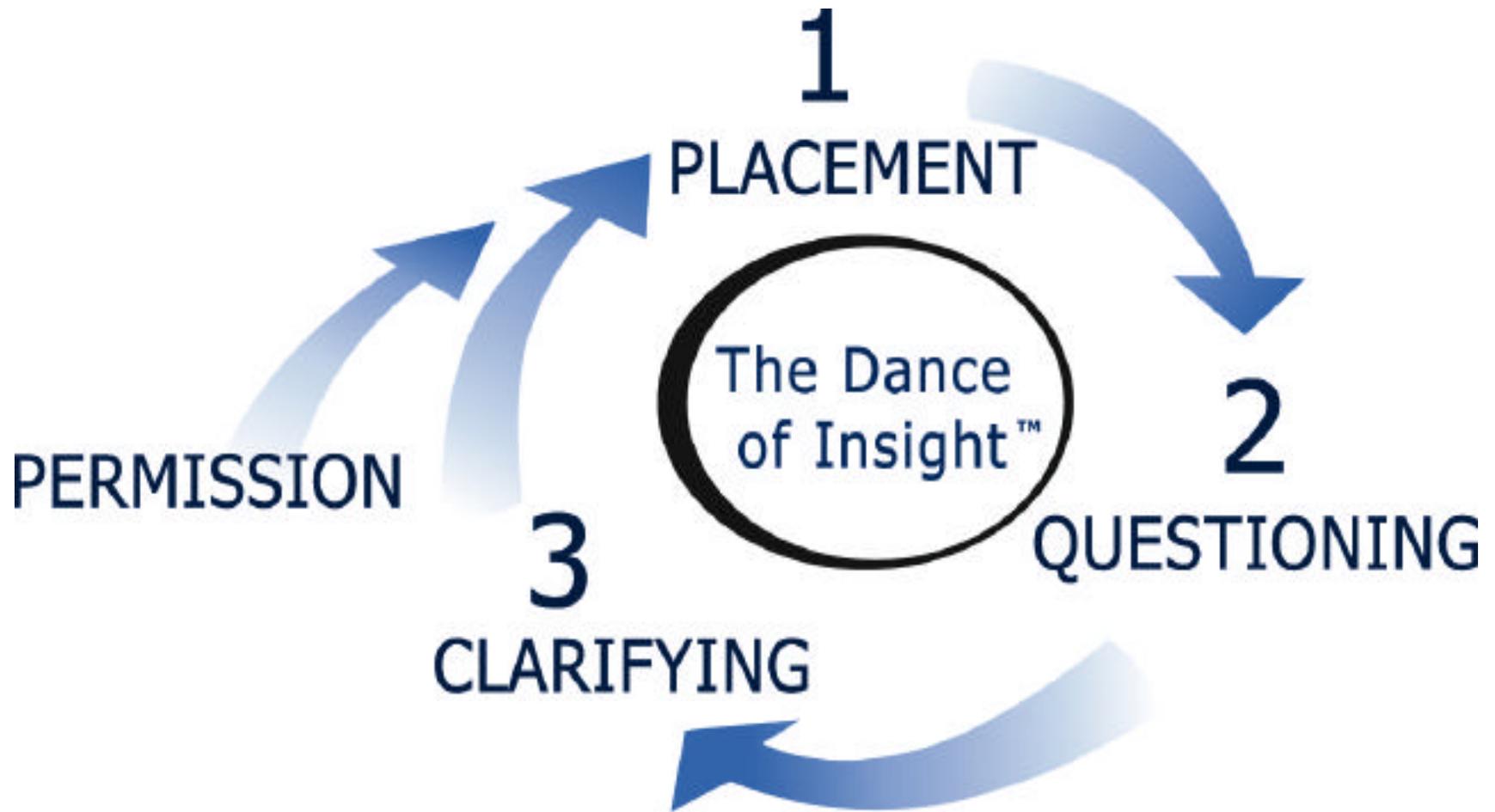
Choose your focus



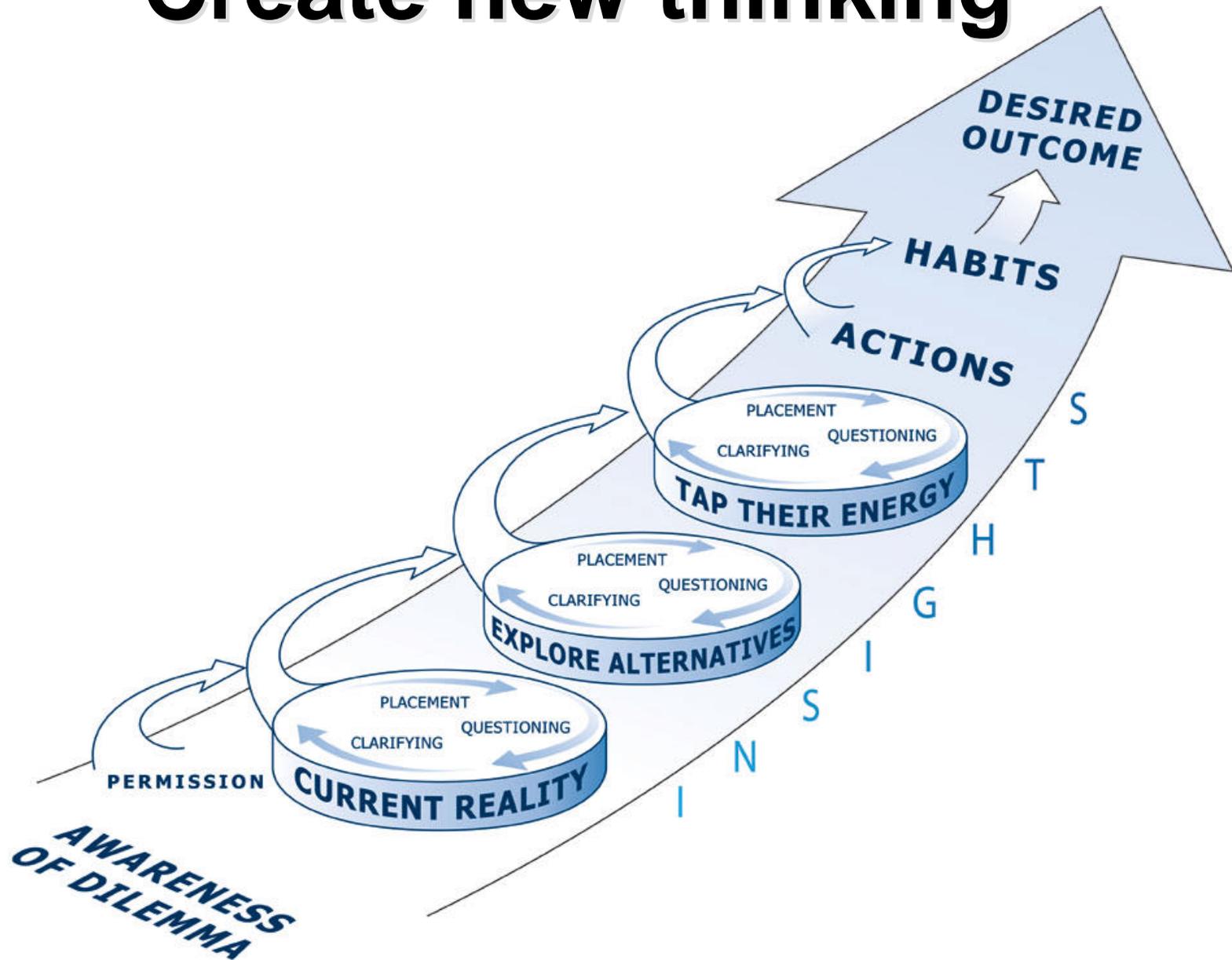
7 steps to change



Dance Toward Insight



Create new thinking



Where to apply this



- **Skills**
- **Problem solving**
- **Decision making**
- **Performance feedback**

Skills coaching



- *I want to run more effective meetings*
- *I want to get through emails more quickly*

Problem solving



- *I'm having a real problem with one of my team*
- *I'm having a problem with this project*

Decision making



- *I'm not sure which one of these people to hire*
- *I don't know which project to focus on first*

Performance Feedback



- *Great performance*
- *Good performance*
- *Poor performance*

Big take aways today?



- 1. What insights have you had?*
- 2. What do you need to do to turn these insights into habits?*
- 3. What do you need to do, to ensure this really happens?*

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